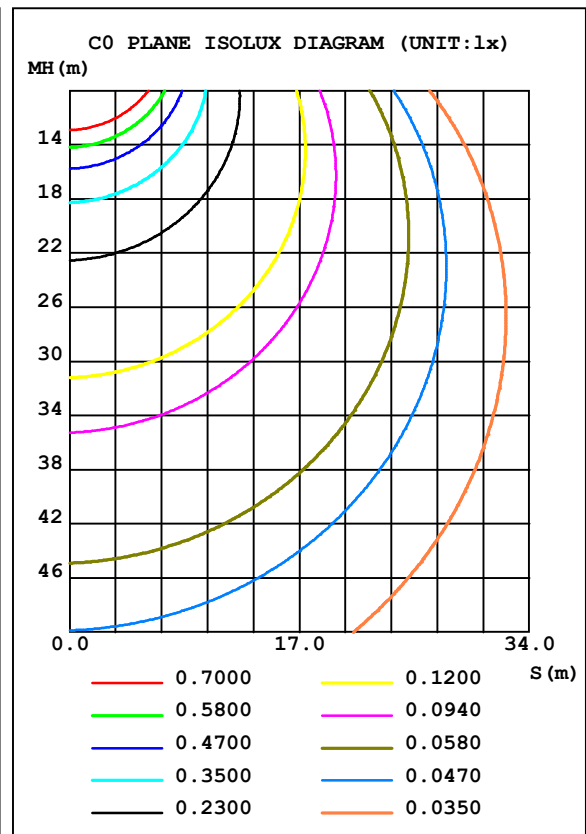
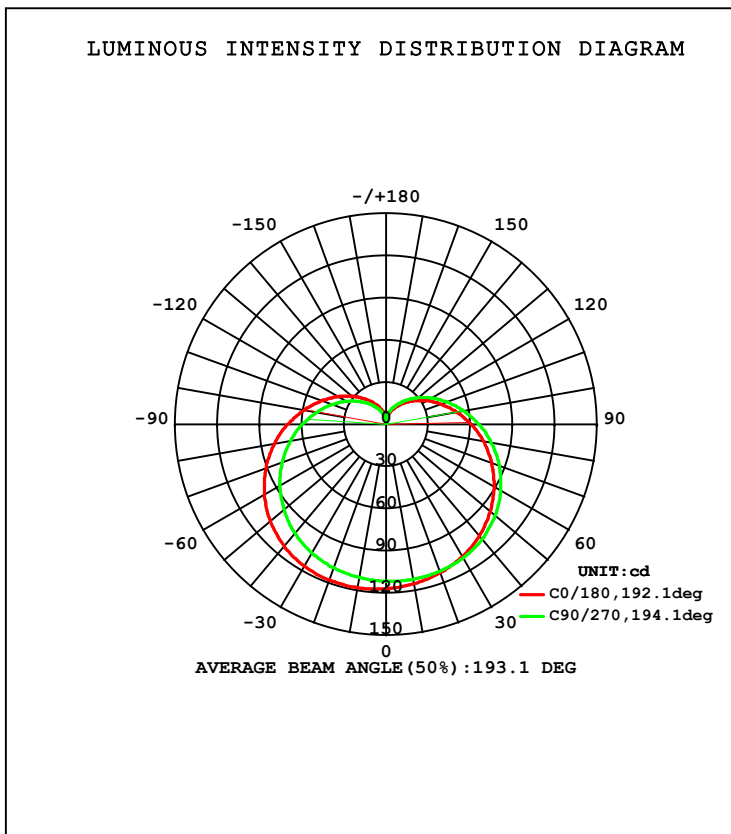


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: A60 10W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: MK	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	118.1	S/MH (C0/180)	1.40
NOMINAL POWER (W)	10	LOR (%)	100.0	S/MH (C90/270)	1.49
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	789.54	η UP, DN (C0-180)	14.5, 36.4
NOMINAL FLUX (lm)	789.538	CIE CLASS	SEMI-D.	η UP, DN (C180-360)	13.7, 35.4
LAMPS INSIDE	1	η up (%)	28.2	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	0.0	η down (%)	71.8	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	115.2	113.2	111.9	110.9	118.0	114.0	110.7	108.4	0- 10	10.73	10.73	1.36,1.36
20	112.5	111.7	111.4	110.8	117.9	113.1	108.8	106.0	10- 20	31.64	42.37	5.37,5.37
30	108.7	109.1	109.8	109.6	116.4	110.7	105.8	102.5	20- 30	50.83	93.19	11.8,11.8
40	103.5	104.9	106.5	106.5	113.0	106.5	101.1	97.74	30- 40	66.95	160.1	20.3,20.3
50	96.75	99.13	101.2	101.4	107.5	100.4	94.88	91.50	40- 50	78.68	238.8	30.2,30.2
60	88.77	91.79	94.17	94.31	99.99	92.69	87.24	84.06	50- 60	85.17	324.0	41,41
70	79.87	83.21	85.67	85.75	90.89	83.63	78.56	75.73	60- 70	86.23	410.2	52,52
80	70.39	73.86	76.16	76.13	80.73	73.83	69.20	66.82	70- 80	82.29	492.5	62.4,62.4
90	60.70	64.11	66.16	65.99	70.06	63.65	59.63	57.72	80- 90	74.32	566.8	71.8,71.8
100	51.22	54.42	56.20	55.93	59.43	53.67	50.24	48.76	90-100	63.63	630.5	79.9,79.9
110	42.22	45.12	46.62	46.30	49.24	44.17	41.33	40.24	100-110	51.64	682.1	86.4,86.4
120	33.92	36.51	37.71	37.39	39.83	35.47	33.12	32.36	110-120	39.60	721.7	91.4,91.4
130	26.45	28.75	29.71	29.41	31.36	27.69	25.78	25.25	120-130	28.50	750.2	95,95
140	19.98	21.93	22.67	22.40	23.93	20.87	19.38	19.05	130-140	19.02	769.2	97.4,97.4
150	14.51	16.13	16.69	16.43	17.59	15.13	13.99	13.83	140-150	11.52	780.7	98.9,98.9
160	9.958	11.31	11.73	11.50	12.38	10.42	9.469	9.497	150-160	6.101	786.8	99.7,99.7
170	4.253	6.227	6.779	5.879	7.166	5.439	4.415	4.188	160-170	2.421	789.3	100,100
180	1.075	1.044	1.009	1.014	1.090	1.054	1.029	1.009	170-180	0.2786	789.5	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

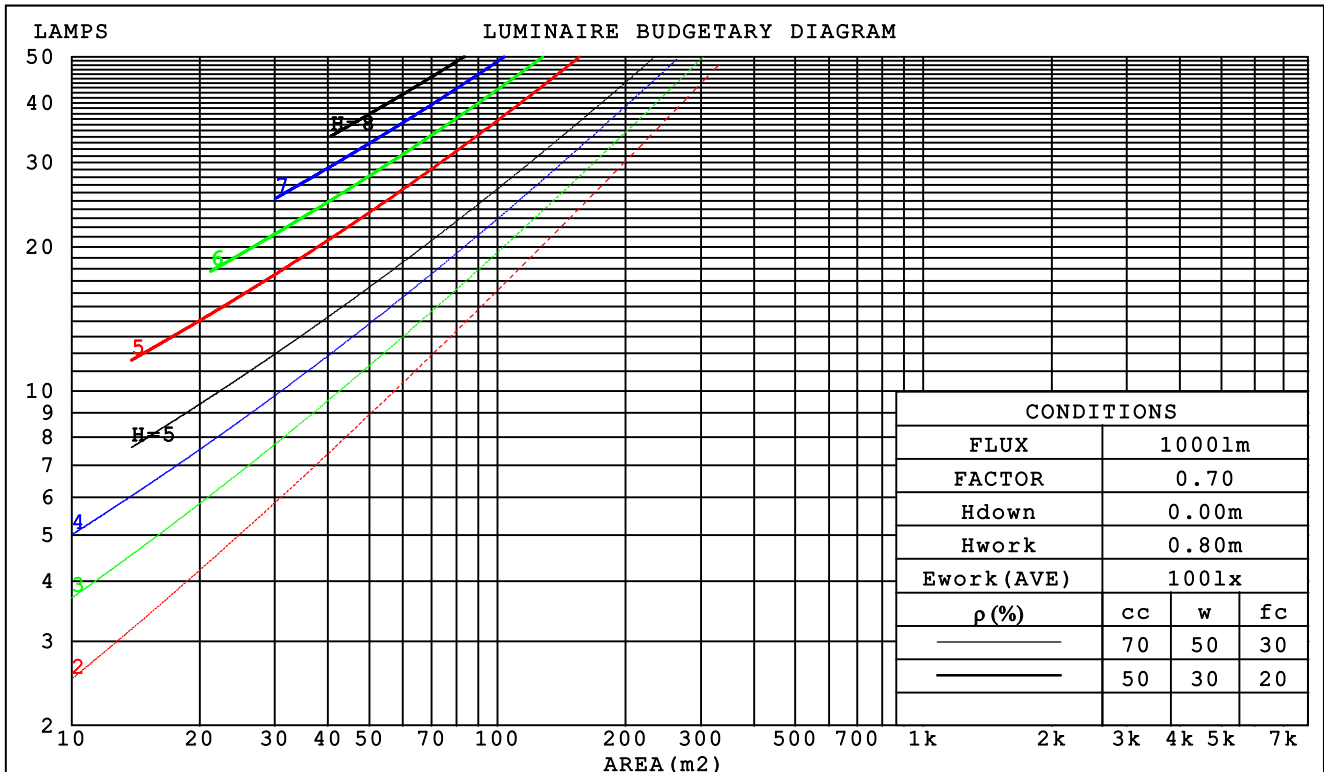
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:8.920m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: A60 10W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: MK	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.12	1.12	1.12	1.06	1.06	1.06	.95	.95	.95	.85	.85	.85	.76	.76	.76	.72
1.0	.92	.86	.81	.87	.81	.77	.77	.73	.69	.68	.65	.62	.60	.58	.55	.51
2.0	.78	.69	.62	.73	.66	.60	.65	.59	.54	.57	.53	.48	.50	.47	.43	.39
3.0	.67	.58	.50	.63	.55	.48	.56	.49	.43	.49	.44	.39	.43	.39	.35	.31
4.0	.58	.49	.41	.55	.46	.39	.49	.42	.36	.43	.37	.32	.38	.33	.29	.26
5.0	.52	.42	.35	.49	.40	.33	.43	.36	.30	.38	.32	.27	.34	.29	.25	.22
6.0	.46	.36	.30	.43	.35	.28	.39	.31	.26	.34	.28	.24	.30	.25	.21	.18
7.0	.41	.32	.26	.39	.31	.25	.35	.28	.23	.31	.25	.20	.28	.22	.18	.16
8.0	.37	.29	.23	.35	.27	.22	.32	.25	.20	.28	.22	.18	.25	.20	.16	.14
9.0	.34	.26	.20	.32	.25	.19	.29	.22	.18	.26	.20	.16	.23	.18	.15	.12
10.0	.31	.23	.18	.30	.22	.17	.27	.20	.16	.24	.18	.14	.21	.17	.13	.11



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks:

WEC AND CCEC

NAME: A60 10W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: MK	SUR.:	PROTECTION ANGLE:

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.413	.235	.074	.398	.227	.072	.368	.211	.067	.341	.196	.063	.315	.183	.059	
2.0	.349	.191	.059	.335	.184	.057	.308	.171	.053	.283	.159	.050	.260	.147	.046	
3.0	.306	.163	.049	.293	.157	.047	.269	.146	.044	.246	.135	.041	.225	.124	.038	
4.0	.273	.142	.042	.261	.137	.040	.239	.127	.038	.218	.117	.035	.199	.108	.033	
5.0	.247	.126	.036	.236	.121	.035	.216	.112	.033	.196	.104	.031	.179	.095	.029	
6.0	.225	.113	.032	.215	.109	.031	.196	.101	.029	.179	.093	.027	.163	.086	.025	
7.0	.207	.102	.029	.198	.099	.028	.181	.091	.026	.164	.084	.025	.149	.078	.023	
8.0	.191	.093	.026	.183	.090	.025	.167	.083	.024	.152	.077	.022	.138	.071	.021	
9.0	.178	.086	.024	.170	.083	.023	.155	.077	.022	.142	.071	.020	.128	.065	.019	
10.0	.166	.080	.022	.159	.077	.021	.145	.071	.020	.132	.066	.019	.120	.060	.017	

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.405	.405	.405	.346	.346	.346	.236	.236	.236	.136	.136	.136	.043	.043	.043	
1.0	.404	.372	.343	.346	.319	.295	.237	.220	.204	.136	.127	.119	.044	.041	.038	
2.0	.398	.350	.309	.341	.301	.267	.234	.208	.186	.135	.121	.109	.043	.039	.036	
3.0	.391	.334	.288	.335	.288	.250	.230	.200	.175	.133	.117	.103	.043	.038	.034	
4.0	.383	.322	.275	.329	.278	.239	.226	.194	.168	.131	.114	.100	.042	.037	.033	
5.0	.375	.312	.266	.322	.270	.231	.222	.189	.163	.129	.111	.097	.041	.036	.032	
6.0	.368	.305	.259	.316	.264	.226	.218	.185	.160	.127	.109	.095	.041	.036	.031	
7.0	.361	.298	.254	.310	.258	.222	.214	.181	.157	.125	.107	.093	.040	.035	.031	
8.0	.354	.293	.251	.305	.254	.219	.211	.178	.155	.123	.105	.092	.040	.034	.031	
9.0	.348	.288	.248	.299	.250	.216	.208	.176	.153	.121	.104	.092	.039	.034	.030	
10.0	.342	.284	.246	.295	.247	.214	.204	.174	.152	.119	.103	.091	.039	.034	.030	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks:

Uncorrected UGR Table

NAME: A60 10W		TYPE:					WEIGHT:				
DIM.:		SPEC.:					SERIAL No.:				
MFR.: MK		SUR.:					PROTECTION ANGLE:				
ceiling/cavity		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H y = 2H		10.5	11.8	11.1	12.4	13.2	10.7	12.0	11.4	12.7	13.4
	3H	13.2	14.4	13.8	15.1	15.9	13.5	14.7	14.2	15.4	16.2
	4H	14.7	15.8	15.4	16.5	17.3	15.1	16.2	15.7	16.9	17.7
	6H	16.3	17.4	17.0	18.1	19.0	16.8	17.8	17.5	18.5	19.4
	8H	17.3	18.3	18.0	19.0	19.9	17.7	18.7	18.4	19.5	20.3
	12H	18.3	19.3	19.0	20.0	20.9	18.8	19.8	19.5	20.5	21.4
	4H 2H	11.4	12.5	12.1	13.2	14.1	11.6	12.7	12.3	13.4	14.2
	3H	14.3	15.3	15.0	16.0	16.9	14.5	15.5	15.3	16.3	17.1
	4H	15.9	16.8	16.7	17.6	18.5	16.2	17.2	17.0	17.9	18.8
	6H	17.7	18.6	18.5	19.3	20.3	18.1	18.9	18.9	19.7	20.6
	8H	18.8	19.5	19.5	20.3	21.3	19.2	19.9	19.9	20.7	21.7
	12H	19.9	20.6	20.7	21.4	22.4	20.4	21.1	21.1	21.9	22.8
	8H 4H	16.6	17.4	17.4	18.2	19.1	16.8	17.6	17.6	18.4	19.3
	6H	18.7	19.4	19.5	20.2	21.2	19.0	19.7	19.8	20.5	21.5
	8H	19.9	20.5	20.7	21.3	22.3	20.2	20.8	21.1	21.7	22.7
	12H	21.3	21.8	22.1	22.6	23.7	21.7	22.2	22.5	23.0	24.1
	12H 4H	16.8	17.5	17.6	18.3	19.3	17.0	17.7	17.8	18.5	19.5
	6H	19.0	19.6	19.8	20.4	21.4	19.3	19.9	20.1	20.7	21.7
	8H	20.3	20.8	21.1	21.7	22.7	20.6	21.1	21.5	22.0	23.0
Variations with the observer position at spacings:											
S = 1.0H		+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.3 / - 0.4					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 789.5 lm Total Lamp Luminous Flux. (8log(F/F0) = -0.8)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

NAME: A60 10W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: MK	SUR.:	PROTECTION ANGLE:

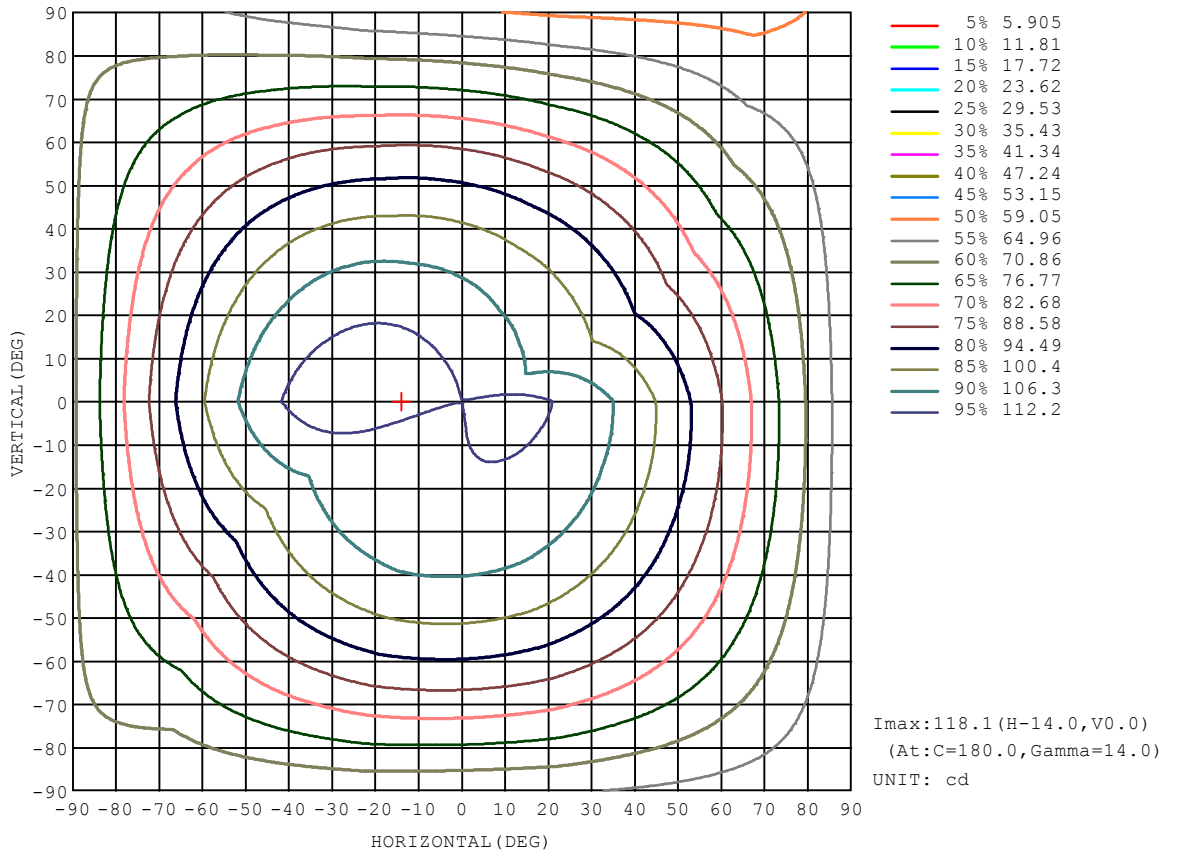
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	43	30	22	41	29	22	39	28	21	15
0.80	51	38	29	49	37	29	46	35	28	19
1.00	59	45	36	57	44	35	52	44	34	24
1.25	66	52	43	63	50	42	58	47	40	29
1.50	71	58	48	68	56	47	62	52	44	32
2.00	78	66	57	75	64	55	68	59	52	38
2.50	83	72	63	79	69	61	71	63	57	41
3.00	87	77	69	83	73	66	75	67	61	45
4.00	92	83	76	87	80	73	79	72	67	49
5.00	96	88	81	91	84	78	81	76	71	52
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

NAME: A60 10W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: MK	SUR.:	PROTECTION ANGLE:

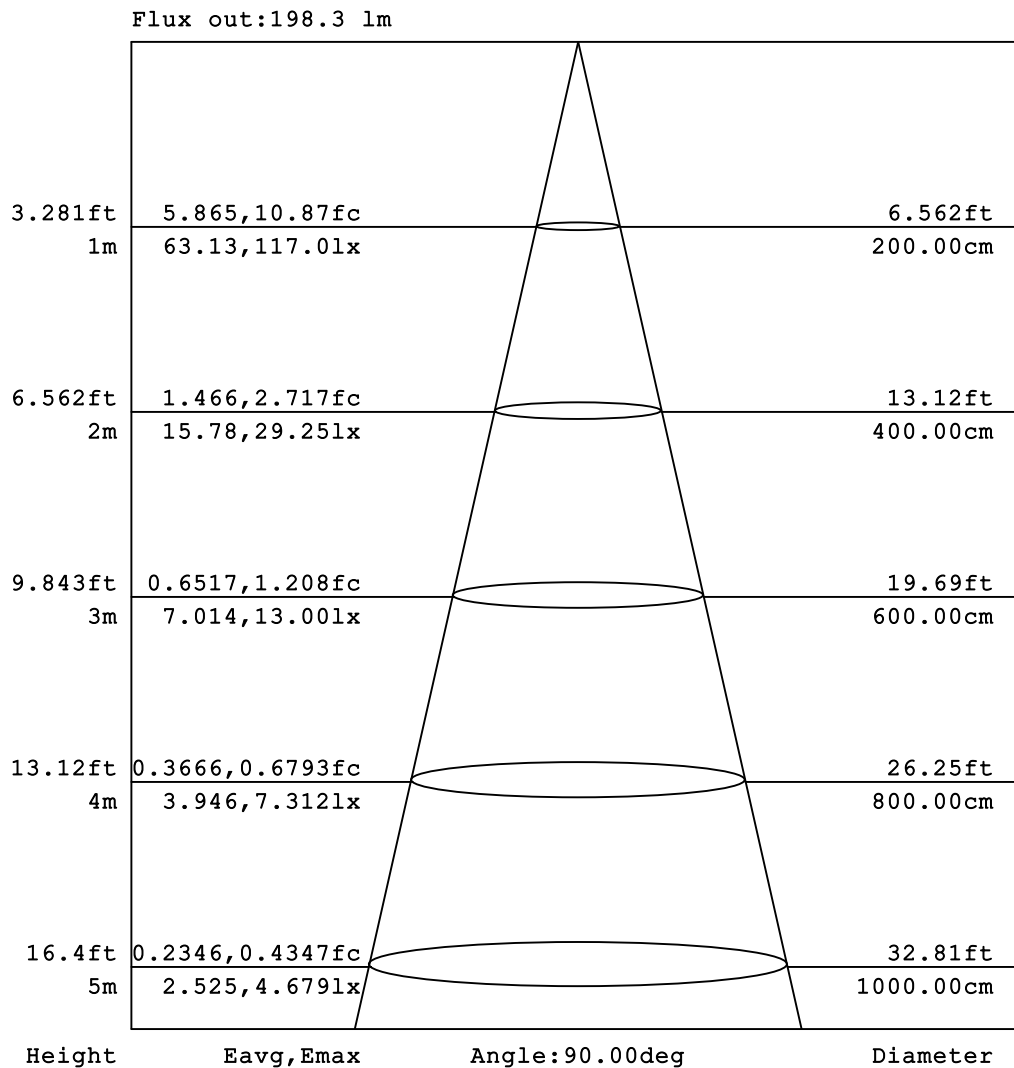


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:8.920m [K=1.0000]
 Remarks:

AAI Figure

NAME: A60 10W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: MK	SUR.:	PROTECTION ANGLE:



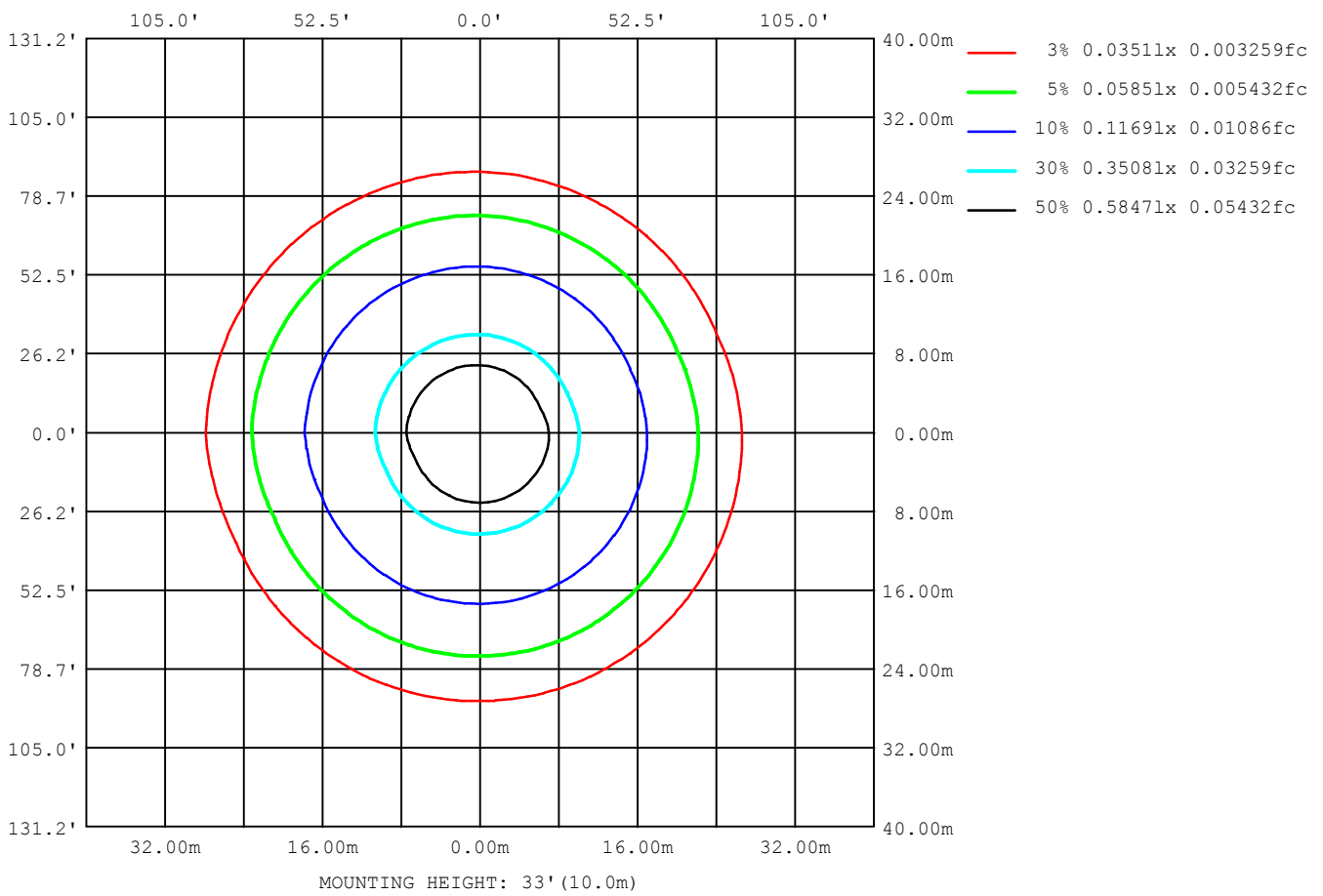
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

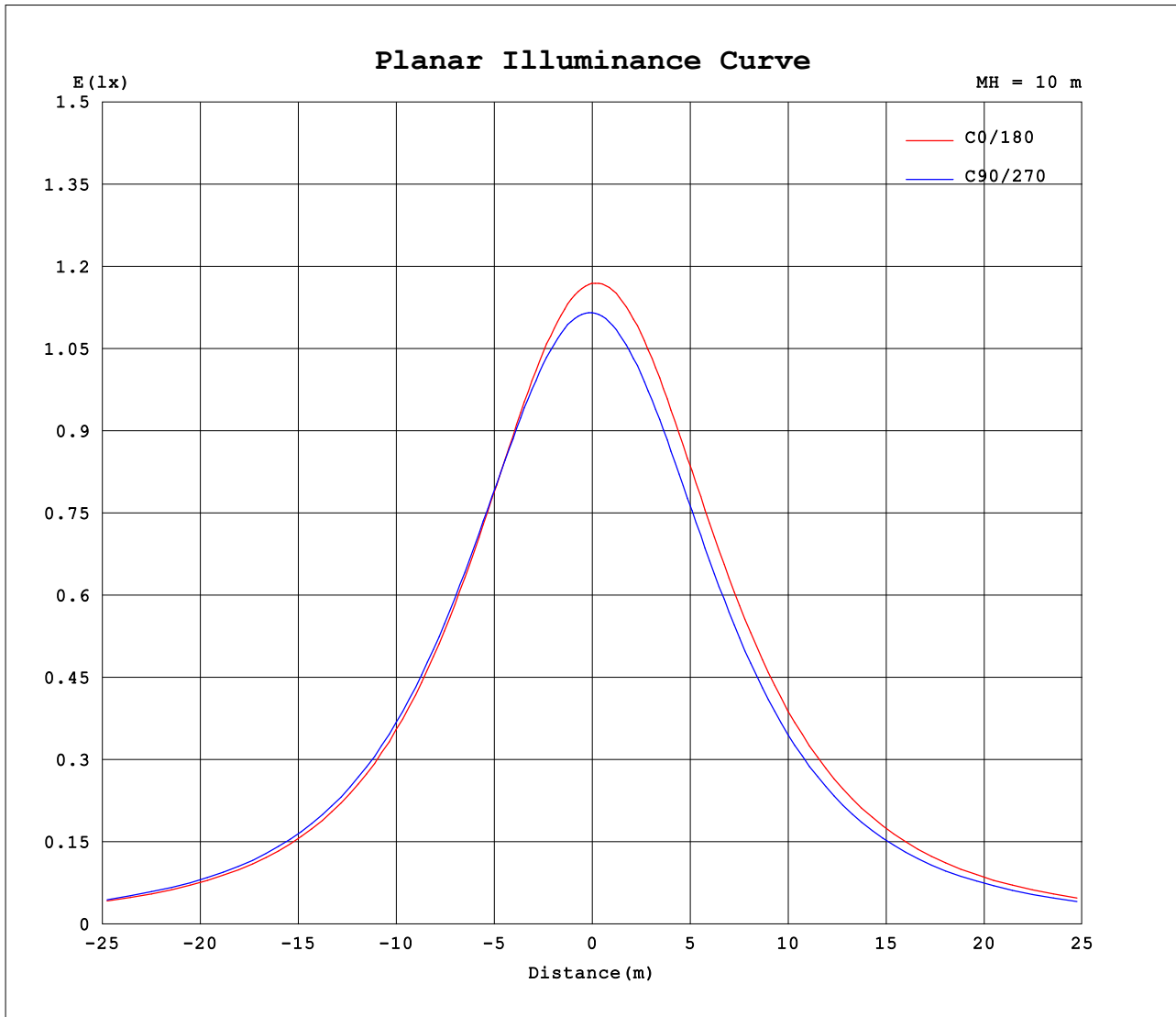
NAME: A60 10W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: MK	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
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γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: A60 10W	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: MK	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	23	45	68	90	113	135	158	180	203	225	248	270	293	315	338			
0	117	115	114	113	112	111	110	109	117	115	114	113	112	111	110	109			
5	116	115	114	113	112	111	111	110	118	116	114	113	111	110	109	109			
10	115	114	113	113	112	111	111	110	118	116	114	112	111	109	108	108			
15	114	113	113	112	112	111	111	110	118	116	114	112	110	108	107	107			
20	113	112	112	112	111	111	111	110	118	115	113	111	109	107	106	105			
25	111	110	111	111	111	111	110	110	117	115	112	109	107	106	104	104			
30	109	109	109	110	110	110	110	109	116	113	111	108	106	104	103	102			
35	106	107	107	108	108	109	108	108	115	112	109	106	104	102	100	99.4			
40	103	104	105	106	106	107	107	106	113	110	106	103	101	99.0	97.7	96.8			
45	100	101	102	104	104	105	104	104	111	107	104	100	98.2	96.1	94.8	93.9			
50	96.7	97.7	99.1	101	101	102	101	101	107	104	100	97.2	94.9	92.7	91.5	90.6			
55	92.9	94.1	95.6	97.2	97.9	98.5	98.1	97.4	104	100	96.7	93.5	91.2	89.1	87.9	87.1			
60	88.8	90.1	91.8	93.4	94.2	94.8	94.3	93.6	100.0	96.1	92.7	89.4	87.2	85.2	84.1	83.3			
65	84.4	85.8	87.6	89.4	90.1	90.7	90.2	89.4	95.6	91.7	88.3	85.1	83.0	81.0	80.0	79.2			
70	79.9	81.4	83.2	84.9	85.7	86.3	85.7	84.9	90.9	87.1	83.6	80.5	78.6	76.7	75.7	75.0			
75	75.2	76.8	78.6	80.3	81.0	81.6	81.0	80.3	85.9	82.2	78.8	75.8	73.9	72.2	71.3	70.6			
80	70.4	72.0	73.9	75.6	76.2	76.7	76.1	75.4	80.7	77.1	73.8	70.9	69.2	67.6	66.8	66.2			
85	65.5	67.2	69.0	70.7	71.2	71.7	71.1	70.3	75.4	71.9	68.7	66.0	64.4	62.9	62.3	61.7			
90	60.7	62.3	64.1	65.7	66.2	66.6	66.0	65.3	70.1	66.7	63.6	61.1	59.6	58.2	57.7	57.2			
95	55.9	57.5	59.2	60.7	61.2	61.6	60.9	60.2	64.7	61.5	58.6	56.2	54.9	53.6	53.2	52.8			
100	51.2	52.7	54.4	55.8	56.2	56.6	55.9	55.3	59.4	56.4	53.7	51.4	50.2	49.1	48.8	48.4			
105	46.6	48.1	49.7	51.0	51.3	51.7	51.0	50.4	54.2	51.4	48.9	46.8	45.7	44.7	44.4	44.1			
110	42.2	43.6	45.1	46.3	46.6	46.9	46.3	45.7	49.2	46.6	44.2	42.3	41.3	40.4	40.2	40.0			
115	38.0	39.3	40.7	41.8	42.1	42.3	41.7	41.2	44.4	41.9	39.7	38.0	37.1	36.3	36.2	36.0			
120	33.9	35.2	36.5	37.5	37.7	38.0	37.4	36.9	39.8	37.5	35.5	33.9	33.1	32.4	32.4	32.2			
125	30.1	31.3	32.5	33.4	33.6	33.8	33.3	32.8	35.5	33.3	31.5	30.0	29.3	28.7	28.7	28.5			
130	26.5	27.6	28.7	29.6	29.7	29.9	29.4	29.0	31.4	29.4	27.7	26.4	25.8	25.2	25.3	25.1			
135	23.1	24.1	25.2	25.9	26.1	26.2	25.8	25.4	27.5	25.7	24.2	23.0	22.5	22.0	22.0	21.9			
140	20.0	20.9	21.9	22.6	22.7	22.8	22.4	22.1	23.9	22.3	20.9	19.8	19.4	19.0	19.1	19.0			
145	17.1	18.0	18.9	19.5	19.5	19.7	19.3	19.0	20.6	19.2	17.9	16.9	16.6	16.2	16.3	16.3			
150	14.5	15.3	16.1	16.6	16.7	16.8	16.4	16.2	17.6	16.3	15.1	14.3	14.0	13.7	13.8	13.8			
155	12.2	12.9	13.6	14.1	14.1	14.2	13.8	13.6	14.9	13.7	12.7	11.9	11.7	11.5	11.6	11.6			
160	9.96	10.6	11.3	11.7	11.7	11.8	11.5	11.3	12.4	11.2	10.4	9.74	9.47	9.33	9.50	9.50			
165	7.51	8.18	8.96	9.37	9.40	9.34	9.10	8.90	9.90	8.53	8.07	7.45	7.11	7.04	7.20	7.23			
170	4.25	5.35	6.23	6.68	6.78	6.75	5.88	6.15	7.17	5.55	5.44	4.80	4.42	4.30	4.19	4.41			
175	1.07	1.06	1.04	1.03	1.02	1.01	1.01	1.00	1.07	1.06	1.04	1.02	1.02	1.00	1.00	0.98			
180	1.07	1.08	1.04	1.04	1.01	1.02	1.01	1.01	1.09	1.06	1.05	1.02	1.03	1.01	1.01	1.00			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2013-10-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 8.920m [K=1.0000]
 Remarks: